

SEE ID NO. 3

RESULT 4
ID 254510 standard; DNA; 1500 BP.
XX AC 254510;
XX DT 21-MAR-2000 (first entry)
XX DE Neisseria gonorrhoeae ORF 986 partial DNA sequence SEQ ID NO:2967.
XX KW Neisseria meningitidis; Neisseria gonorrhoeae; antigen; vaccine;
KW antibiotic; diagnosis; immunogenic; infection; meningitis; septicemia;
KW antibacterial; gene therapy; ds.
OS Neisseria gonorrhoeae.
PN W09957280-A2.
XX PD 11-NOV-1999.
XX PF 30-APR-1999; 99MO-US09346.
XX PR 01-MAY-1998; 98US-0083758.
PR 31-JUL-1998; 98US-0094869.
PR 02-SEP-1998; 98US-0098994.
PR 02-SEP-1998; 98US-0099062.
PR 09-OCT-1998; 98US-0103749.
PR 09-OCT-1998; 98US-0103794.
PR 09-OCT-1998; 98US-0103796.
PR 25-FEB-1999; 99US-0121528.
XX PA (CHIR) CHIRON CORP.
PA (GENO-) INST GENOMIC RES.
PI Fraser C, Galeotti C, Grandi G, Hickey E, Masignani V, Mora M,
PI Petersen J, Piazza M, Rappunli R, Ratl G, Scalato E, Scarselli M,
PI Tettelin H, Venter JC;
XX MPI; 2000-062150/05.
DR P-PSDB: Y75748.
XX Novel Neisserial polypeptides predicted to be useful antigens for
PT vaccines and diagnostics -
XX Claim 7; Page 1389-1390; 1453pp; English.
XX 253015 to 254536, 254577 to 254615, and Y74253 to Y75941 represent
CC novel Neisseria meningitidis and N. gonorrhoeae polynucleotides and
CC polypeptides. 254537 to 254576 and 254616 to 255473 represent PCR
CC primers used in the exemplification of the present invention. The
CC polypeptides, the polynucleotides, antibodies and compositions of
CC the invention can be used as vaccines, as diagnostic reagents, and as
CC immunogenic compositions. The polypeptides can be used in the
CC manufacture of medicaments for treating or preventing infection due to
CC Neisserial bacteria (e.g. meningitis and septicaemia), to detect the
CC presence of Neisseria bacteria, or to raise antibodies. They may also
CC be used to screen for agonists or antagonists, which may themselves
CC have use as antibacterial agents. The polynucleotides of the invention
CC may also be used in gene therapy protocols.

```
Query Match      89.5%; Score 1248; DB 21; Length 1500
Best Local Similarity 99.9%; pred. No. 0;
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Matches 1298; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

[illegible]

QY 1136 gcaaaagcgaaagaatcacaaatcaaaagccaagctggcuaacgcccgcggagcatalaccgcyg 1195
|||||
Db 1136 gcaaaagcgaaagaatcacaaatcaaaagccaagctggcuaacgcccgcggagcatalaccgcyg 1195
|||||
QY 1196 catcatccaaaacagatgaagccccctacaccgaaacagcaatccggtacgttctcgctcg 1255
|||||
Db 1196 catcatccaaaacagatgaagccccctacaccgaaacagcaatccggtacgttctcgctcg 1255
|||||
QY 1256 aatccgacagcatcacccttcagacacataaccgacagcaagcgaaacacaccctcgctcg 1315
|||||
Db 1256 aatccgacagcatcacccttcagacacataaccgacagcaagcgaaacacaccctcgctcg 1315
|||||
QY 1316 tacgggtttccgacgcgcgagaaacgcgcgagcttaagc 1354
|||||
Db 1316 tacgggtttccgacgcgcgagaaacgcgcgagcttaagc 1354
|||||



CC novel *Neisseria meningitidis* and *N. gonorrhoeae* polynucleotides and
 CC polypeptides. 254537 to 254576 and 254616 to 254673 represent PCR
 CC primers used in the exemplification of the present invention. The
 CC polypeptides, the polynucleotides, antibodies and compositions of
 CC the invention can be used as vaccines, as diagnostic reagents, and as
 CC immunogenic compositions. The polypeptides can be used in the
 CC manufacture of medicaments for treating or preventing infection due to
 CC *Neisseria meningitidis* (e.g. meningitis and septicemia), to detect the
 CC presence of *Neisseria meningitidis*, or to raise antibodies. They may also
 CC be used to screen for agonists or antagonists, which may themselves
 CC have use as antibacterial agents. The polynucleotides of the invention
 CC may also be used in gene therapy protocols.

CC Sequence 499 AA:

alignment_scores: Quality: 451.00 Length: 451
 Ratio: 1.000 Gaps: 0
 Percent Similarity: 100.000 Percent Identity: 100.000

alignment_block:
 US-09-368-090-3 x Y75748

Align seg 1/1 to: Y75748 from: 1 to: 499

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1  GCTTCAAAAAATACCAATACCTTCGCTTGGCGGACATGTGCGCCCTT 50
1  ValPheLysLysTyrGlnTyrPheAlaLeuAlaAlaLeuCysAlaAlaLe 17
51  GCTGCAGCGTGGGAGAAAGGAGGAGGAGGAGGAGGAGGAGGAGGAGG 100
17  UleuAlaGlyCysGlnLysAlaGlySerPhePheLysAlaAspLysG 34
101  AAGCATCTCTTGTAGAACCATGCAACACACCAAGAGGAGGAGGAGG 150
34  LualSerPheValGluArgGlnGlnHisThrLysAspAspLysGln 50
151  AGTATGCTGCTGCGCCGCTTGGCCGACATGCTTCAAGGAGGAGGAGG 200
51  SerMetLeuLeuProAspPheAlaGlnLeuValGlnSerGlnGlyPro 67
201  AGTGTCAATATTCAGGAGGAGGAGGAGGAGGAGGAGGAGGAGGAGG 250
67  aValValAsnIleGlnAlaAlaProAlaProArgThrGlnAsnGlySer 84
251  GCAATGCCGAACCGATTCGAGCCGCTTGGCGGAGGAGGAGGAGGAGG 300
84  LysAlaGlnLysThrAspSerAspProLeuAlaAspSerAspProPhe 100
301  GAATTTTCAACCGCTTCCGCGGAGGAGGAGGAGGAGGAGGAGGAGG 350
101  GlnPhePheLysArgLeuValProAsnMetProGlnIleProGlnGln 117
351  AGCAGATGAGGAGGAGGAGGAGGAGGAGGAGGAGGAGGAGGAGGAG 400
117  uAlaAspAspGlyGlyLeuAsnMetGlySerGlyPheIleIleSerLys 134
401  ACGGCTACATCTGACCAATATACCATGCTTGGCGGAGGAGGAGGAG 450
134  snGlyTyrIleLeuThrAsnThrHisValAlaAlaGlyMetLysIle 150
451  AAAGTCTGCTCAACGAGCAAGCGGAGATATACCGGAGGAGGAGGAG 500
151  LysValLeuLeuAsnAspLysArgLysThrAlaAlaLeuIleGlySe 167
501  GGATGTCATTCGATGCGGCTTGGAGGAGGAGGAGGAGGAGGAGGAG 550
167  TAspValGlnSerAspAlaAlaLeuLeuLysIleAspAlaThrGlnG 184
551  TACCGTCTGCAAAATCGGCAATCCCAAAATTTGAACGGGAGGAGG 600
184  euProValValLysIleGlyAsnProLysAsnLeuLysProLysGln 200

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US-09-368-090-3 (first entry)

US-09-368-090-3 (first entry)

US-09-368-090-3 (first entry)

US-09-368-090-3 (first entry)

US-09-368-090-3 (first entry)

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US-09-368-090-3 (first entry)

US-09-368-090-3 (first entry)

US-09-368-090-3 (first entry)

US-09-368-090-3 (first entry)

Second report

SEE ID NO. 3.

601 GTGGCTGCGCATCGCGCGCCCTTCGGCTTTTGACAACAAGCCCTGACCCCGG 650
|||||
201 ValAlaAlaIleGlyAlaIleProheGlyPheAspAsnSerValThrAlaGl 217
|||||
651 CATCGTGTCCGCGCAAGCGCAGAGCTGCCACGAAAGCTTACACACCCCT 700
|||||
217 yIleValSerAlaLysGlyArgSerLeuProAsnLysSerThrProp 234
|||||
701 TCATCCAAACCGACGCTGGCATCATCCGGGCAATTCCGGCGCCGCTG 750
|||||
234 heIleGlnThrAspValAlaIleAsnProGlyAsnSerGlyGlyProLeu 250
|||||
751 TTCACCTTAAAGACAGGCTCGGCATCATTCGCAAAATATACACCCG 800
|||||
251 PheAsnLeuLysGlyGlnValAlaGlyIleAsnSerGlnIleTySerArg 267
|||||
801 CACCGCGCGATTCATGGGCACTCTCTTCCATCCGATCCGATTCAGCTTGCCA 850
|||||
851 gSerGlyGlyPheMetGlyIleSerPheAlaIleProIleAspValAlaIle 284
|||||
851 TGAATGTCCGCGCAACAGCTGAAAACACCGCGCAAGTCCACGCGGACAA 900
|||||
284 eIAsnValAlaGlnGlnLeuLysAsnThrGlyLysValGlnArgGlyGln 300
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901 CTGGCGCGTATTAATCAGGAAGTATCTCAGGCTTTCGACAGCTTCGCG 950
|||||
301 LeuGlyValIleIleGlnGlnLysValSerTyGlyLeuAlaGlnSerPheGl 317
|||||
951 TCTGGATTAAGCCAGCGCGCATTCGATTCGCAAAATCTTCCCGCCACCC 1000
|||||
317 yLeuAspLysAlaSerGlyAlaLeuIleAlaLysIleLeuProGlySerP 334
|||||
1001 CCGCAGAACGTCGCGGCTCGACGCGGCGACATCTCTCAAGCTTCGAC 1050
|||||
334 roAlaGlnArgAlaGlyLeuGlnAlaGlyAspIleValIleuSerLeuAsp 350
|||||
1051 GCGCGAAGAAATACCTTCTCCGGGACCTCCCGTCATGCTCGCGCCCAAT 1100
|||||
351 GlyGlyGlnIleArgSerSerGlyAspLeuProValIleValAlaIle 367
|||||
1101 TACCGCGGAAAGAAAGTCAAGCTTCGGCGCTATGGCGCAAGCCGAA 1150
|||||
367 eThrProGlyLysGlnValSerLeuGlyValTTPArgLysGlyGlnIle 384
|||||
1151 TCACAATCAAGCCAAAGCTGGGCAAGCGCGCGCATACCGCGCATCA 1200
|||||
84 leThrIleLysAlaLysLeuGlyAsnAlaIleGlnIleHisThrGlyAlaSer 400
|||||
1201 TCCAAACACAGATGAAGCCCTTACACCGAAGCAATCCGGTACGTTTC 1250
|||||
401 SerLysThrAspGlnAlaProTyrThrGlnGlnIleSerGlyThrPhe 417
|||||
1251 GGTCAATCCGACGATTAACCTTACACGATACCGACATACCGACGCGCA 1300
|||||
417 rValGlnSerAlaGlyIleThrLeuGlnIleHisThrAspSerSerGly 434
|||||
1301 AACACCTCGTCGCTACGGGTTTCGACGCGGCAAGACGCGACGCTTA 1350
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434 yHisIleuValAlaValAlaArgValSerAspAlaIleGlnArgAlaGlyLeu 450
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1351 AGG 1353
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451 Arg 451

II Search report

See ID NO. 3

seq documentation block:
ID Y52994 standard; Protein: 499 AA.
XX Y52994;
XX 21-FEB-2000 (first entry)
XX Neisseria meningitidis strain ATCC 13090 BASB013 protein sequence.
XX DE Neisseria meningitidis; BASB013; diagnosis; infection; vaccine;
XX KM antibiotic; upper respiratory tract infection; bacteraemia; meningitis;
XX KW invasive bacterial disease; antibacterial.
XX Neisseria meningitidis.
XX OS M0955872-A1.
XX PN 04-NOV-1999.
XX PF 20-APR-1999; 99MO-EP02765.
XX PR 23-APR-1998; 98GB-0008734.
XX (SMK) SMITHKLINE BEECHAM BIOLOGICALS.
XX Ruelle J;
XX MPI: 2000-052809/04.
XX DR N-PSDB: 233306.
XX Novel polynucleotides and polypeptides from Neisseria meningitidis used
XX to prepare vaccines against bacterial infections
XX
XX Claim 3; Page 77-78; 94pp; English.
XX
XX The present sequence represents a BASB013 polypeptide isolated from
XX Neisseria meningitidis. BASB013 polynucleotides and polypeptides may be
XX employed as research reagents and material for the discovery of
XX treatments and diagnostics for diseases, particularly human diseases.
XX They can be used for diagnosis of disease, staging of disease, or
XX determining response of an infectious organism to drugs. The
XX polynucleotides may be used as a source for hybridisation probes, and
XX for screening of genetic mutations, serotype, organism or strain
XX identification. Identification of mutation in BASB013 sequences, and as
XX components of arrays which are useful for diagnostic and prognostic
XX purposes. The polypeptides can also be used to produce antibodies. The
XX polypeptides can also be used in vaccine formulations, and to identify
XX agonists and antagonists. The polypeptides, antibodies, agonists and
XX antagonists (which are bacteriostatic) are used for the treatment and
XX prevention of diseases such as upper respiratory tract infection,
XX invasive bacterial diseases such as bacteraemia and meningitis, and for
XX the development and screening of antibacterial drugs. They are also used
XX in the prevention of adhesion of bacteria to eukaryotic matrix proteins
XX on in-dwelling devices, or to extracellular proteins on wounds, and to
XX thus prevent tissue damage and/or block the normal progression of
XX pathogenesis in infections initiated other than by the implantation of
XX in-dwelling devices or by other surgical techniques.
XX
XX Sequence 499 AA;

alignment scores:
Quality: 127.00
Ratio: 1.000

Length: 127
Gaps: 0

Percent Similarity: 100.000 Percent Identity: 100.000
align block:
US-09-388-090-3 x Y52994
Align seg 1/1 to: Y52994 from: 1 to: 499

583 TTGAAACCGGGCGAATGGCTGCGTCATCGCGCGCCCTTGCGCTTGA 632
195 LLeuLspProGlyGluTrpValAlaAlaIleGlyAlaProPheGlyPheAs 211
633 CAACACGCTGACCGCGCATGCTGTCGCCCAAGACGACGACCTGCCA 682
211 pAnserValThrAlaGlyIleValSerAlaLysGlyArgSerLeuProA 228
683 ACGAAGCTACACACCTTCATCAACCGACGCTGCGCATCAATCGCGGC 732
228 sngLserTyrThrProPheIleGlnThrAspValAlaIleAsnProGly 244
733 AATTCGGCGCGCCCGCTGTCACCTTAAAGACAGCTGTCGCGCATCA 782
245 AsnSerGlyGlyProLeuPheAsnLeuLysGlyIleValGlyIleAs 261
783 TTGCAAAATATACAGCGCGCGCGGATTCATGGCATCTCTTGCCA 832
261 nSerGlnIleTyrSerArgSerGlyGlyPheMetGlyIleSerPheAlaI 278
833 TCCGATTCAGCTTCCCATGATGATGCGCGCAACAGCTGAAAGAACCGGC 882
278 lProlIleAspValAlaMetAsnValAlaGlnIleLysAsnThrGly 294
883 AAAGTCACACCGCGGACACTGGCGGTATTTCAGGAGATATCTACGG 932
295 LysValGlnArgGlyGlnLeuGlyValIleIleGlnIleValSerTyrG 311
933 TTGCGACAGCTGCTGCGTCTGATTAAGCC 963
311 yLeuAlaGlnSerPheGlyLeuAspLysAla 321

seq name: ./3302.2.acgacata.469

seq_documentation_block:
; Sequence 8, Application PC/TUS9506211
; GENERAL INFORMATION:
; APPLICANT:
; TITLE OF INVENTION: METHODS AND COMPOSITIONS FOR DIAGNOSING
; TITLE OF INVENTION: ROCHALIMAEA HENSELAE AND ROCHALIMAEA QUINTANA INFECTION
; NUMBER OF SEQUENCES: 10
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: NEEDLE & ROSENBERG, P.C.
; STREET: 127 Peachtree Street, Suite 1200
; CITY: Atlanta
; STATE: Georgia
; COUNTRY: USA
; ZIP: 30303
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: PatentIn Release #1.0, Version #1.25

WO 9531549

; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: PCT/US95/06211
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: US 08/245,294
; FILING DATE: 18 MAY 1994
; CLASSIFICATION:
; ATTORNEY/AGENT INFORMATION:
; NAME: Spratt, Gwendolyn D.
; REGISTRATION NUMBER: 36,016
; REFERENCE/DOCKET NUMBER: 1414.6121
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: 404/688-0770
; TELEFAX: 404/688-9880
; INFORMATION FOR SEQ ID NO: 8:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 503 amino acids
; TYPE: amino acid
; TOPOLOGY: linear
; MOLECULE TYPE: protein
PCT-US95-06211-8

alignment_scores:
Quality: 8.00 Length: 8
Ratio: 1.000 Gaps: 0
Percent Similarity: 100.000 Percent Identity: 100.000

alignment_block:
US-09-388-090-3 x PCT-US95-06211-8 ..
Align seg 1/1 to: PCT-US95-06211-8 from: 1 to: 503

640 GTGACCGCCGGCATCGTGTCGCC 663
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215 ValThrAlaGlyIleValSerAla 222